

## Course Outcomes Guide (COG)

**Course Title:** Biology 116

**Date:** May 17, 2016

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### **Expected Learning Outcomes:**

The student will:

1. Exhibit the ability to use core content of the Anatomy and Physiology curriculum which covers all systems of the body.
2. Apply physiological and anatomical principles to the diseased state.
3. Demonstrate transfer of information from diagrams, models and non-human models to the human organism.
4. Demonstrate the ability to access, process, analyze and synthesize scientific information.
  - a. Relate a basic core of scientific principles to an open-ended framework.
  - b. Demonstrate observational and analytic skills in a structured situation.
  - c. Formulate conclusions based on observations and information.
  - d. Use technology to access scientific information, generate and analyze empirical data, and solve problems.

### **Assessment**

A common comprehensive final was adopted in Fall 2015 to closely mirror the HAPS cumulative final.

Five general education questions are also given to each in student beginning in Fall 2015.

### **Validation**

This is an accelerated course that is only given to students entering HCC's dental hygiene program, as a result, the test currently does not have external validation. However student scores are compared with previous year scores, and with scores from students in BIO 104 that take the HAPS cumulative exam.

### **Results**

Item analysis of the comprehensive final is completed to determine which areas of the course need to be fine tuned and focused on.

## Item Analysis Comprehensive Final 2016

Course: **BIO 116** SLOA Data

	SP 15	FA 15	SP 16
# Active students	N=14	N=17	N=12
%W	7% N=1	0%	8% N=1
*% walk-away Fs No final exam/grade = F	0%	6% N=1	8% N=1
% Success (A,B,C)	64% N=9	71% N=12	70% N=10
Mean Common Lab Practical Score	85% N=13	75% N=17	67% N=10
Common Comprehensive Final Exam Score	70% N=13	75% N=16	69% N=10
Gen Ed Questions	71% N=13	61% N=17	68% N=10
Mean course grade	83% N=13	88% N=16	74% N=10

\*% Walk-away Fs = Did not take the final exam and received a grade of F.

\*\*not recorded on proper scantron forms

## Item Analysis Comprehensive Final

Most Missed Topics Between Semesters	
1	Major Tissue Types
2	System Function Differentiation
3	Lymphatic System Function
4	Lymphatic System Organ Function
5	Oxygen Transport
6	Urinary System Filtrate Flow and Transport
7	Hormone Function
8	Glucose Metabolism
9	Tissue Layers
10	Hormone Function

There is no one area of weakness that needs to be addressed. All of these topics are separated and spread throughout the book. What can be done to address this issue is to make sure there is more time and evaluation given with the information. It also might be necessary to review the final exam questions to make sure they align to the content learning level of the course.

### \*\*\*General Education Assessment\*\*\*

General Education Assessments: Demonstrate the ability to access, process, analyze and synthesize scientific information.

- Relate a basic core of scientific principles to an open ended framework
- Demonstrate observational and analytic skills in a structured situation.
- Formulate conclusions based on observations and information.

#### Item analysis General Education component 2016

Level of Question	% Correct		
	SP 15 N=13	FA 15 N=16	SP 16 N=12
Q1 - knowledge	92% (n=12)	15% (n=2)	77% (n=10)
Q2 - application	54% (n=7)	77% (n=10)	38% (n=5)
Q3 - analysis	69% (n=9)	69% (n=9)	77% (n=10)
Q4 - evaluation	54% (n=7)	46% (n=6)	54% (n=7)
Q5 - synthesis	85% (n=11)	54% (n=7)	46% (n=6)

#### Follow-up

Assessment results are analyzed for each faculty member to see how improvements can be made in topics where students scored below a 50%. Results will also be compared between semesters. Overall in each semester, students struggle most with question 4, pertaining to evaluation of scientific data. We need to include more scientific reasoning in this course.

#### Budget Justification

Release time to complete extra projects will become necessary as the class enrollments continue to grow. Full-time faculty will work on establishing chapter learning outcomes.